DEMENT'YEVA, T.F.

Determining the fishing effort on a catch unit in estimating population density changes. Trudy sov. Ikht. kom. no.13:466-470 '61. (MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii - VNIRO.
(Fish populations)
(Fisheries)

DEMENT'YEVA, T.F.

Changes in the biological characteristics of fish populations and the significance of these changes in calculating fishery forecasts. Vop. ekol. 4:22-25 '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut morskogo rybnogo khozyaystva i okeanografii, Moskva.
(Fish populations)

TYURIN, Petr Vladimirovich, doktor biol. nauk, prof.; DEMENT'YEVA, T.F., kand. biol. nauk, retsenzent; KOSSOVA, O.N., red.; SATAROVA, A.M., tekhn. red.

[Biological principles of controlling fisheries in inland bodies of water; methodological manual for studying fish stocks for permanent ichthyological observation centers] Biologicheskie obosnovaniia regulirovaniia rybolovstva na vnutrennikh vodoemakh; metodicheskoe rukovodstvo po izucheniiu rybnykh zapasov dlia postoiannykh ikhtiologicheskikh nabliudatel'nykh punktov. Moskva, Pishchepromizdat, 1963. 118 p. (MIRA 16:10)

(Fisheries)

DEMENT'YEVA, T.F.

Changes in the stocks of commercial fishes in the Baltic Sea under the influence of oceanographic factors. Okeanologiia 3 no.5:876-885 '63. (MIRA 16:11)

1. Laboratoriya zapasov promyslovykh ryb i regulirovaniya rybolovstva. Vsesoyuznogo nauchno-issledovatel'skogo instituta morskogo rybnogo khozyaystva i okeanografii.

DEMENT'YEVA, T.F.

Methods of the evaluation of the relative abundance of the population, development of commercial fish stock and fishing intensity rate. Trudy VNIRO 50:7-38 '64. (MIRA 17:12)

ACC NR: AT6034951 (A,N) SOURCE CODE: UR/0000/66/000/000/0058/0063

AUTHOR: Krukovskiy, V. K.; Likomskaya, G. V.; Dement'yeva, T. N.; Farberov, I. L.

ORG: none

TITLE: Use of electric gas discharges in fuel conversion processes

SOURCE: Moscow. Institut goryuchikh iskopayemykh. Termicheskiy i okislitel'nyy piroliz topliv i vysokopolimernykh materialov (Thermal and oxidizing pyrolysis of fuels and high polymer materials). Moscow, Izd-vo Nauka, 1966, 58-63

TOPIC TAGS: methane, thermal decomposition, electric discharge, activation energy, gas discharge, hydrocarbon

ABSTRACT: A review has been made of the use of electric gas discharges in conversion processes for fuels such coal and gaseous hydrocarbons. Inter alia, the review reports the results of a study of the effect of an electric gas discharge on the homogeneous gas-phase thermal decomposition of methane. Figure 1 shows the effect of the discharge on the temperature dependence of the activation energy of this reaction at 1200—2000C. As Figure 1 indicates, the discharge lowers the absolute value of the activation energy and causes the activation energy to increase with temperature. Orig. art. has: 2 figures.

[WA-68]

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ACC NR: AT6034951

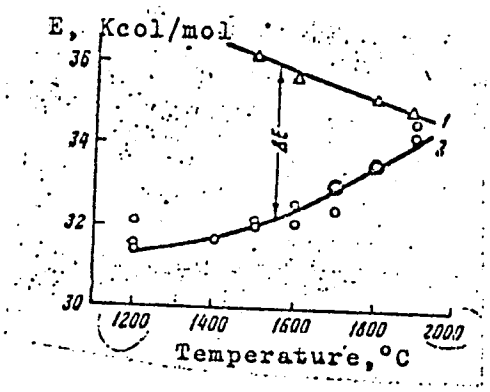

Fig. 1. Activation energy of thermal decomposition of methane versus temperature

1 - No discharge; 2 - discharge.

SUB CODE: 07, 21/ SUBM DATE: 23Jun66/ ORIG REF: 009/ OTH REF: 004

Card 2/2

SHUBINA, S.B.; SHAYEVICH, A.B.; DEMENT'YEVA, V.G.

Determination of hydrogen in steels by spectral analysis. Zav.lab. 29 no.5:552-555 '63. (MIRA 16:5)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.
(Steel--Hydrogen content) (Spectrum analysis)

DEMENT'YEVA, V. V.

"The Growth and Development of the Peking, Khaki-Campbell, and Zerkalnaya Duck Breeds in the Post Embryonic Period." Cand Biol Sci, Moscow Agricultural Acad imeni Timiryazev, Moscow, 1953. (RZhBiol, No 6, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

DEMENT'YEVA, V.V., prepodavatel' farmakognozii

Conducting summer field work in pharmacognosy at the Gorkiy Pharmaceutical School. Apt.delo 8 no.4:33-35 Jl-Ag '59.
(MIRA 12:10)
(GORKIY--PHARMACY--STUDY AND TEACHING)

DEMENT'YEVA, V.V.; BERGOL'TS, V.M.

Possibility of increasing the biological activity of extracts from human leukemic tissues. Biul. eksp. biol. i med. 3[i.e.53] no.3: 76-78 Mr '62. (MIRA 15:4)

1. Iz laboratorii eksperimental'noy terapii opukholey (zav. - doktor meditsinskikh nauk V.M.Bergol'ts) Gosudarstvennogo nauchno-issledovatel'skogo onkologicheskogo instituta imeni P.A.Gertseva (dir. - prof. A.N.Novikov), Moskva. Predstavlena akademikom V.N. Chernigovskim.

(LEUKEMIA) (TISSUE EXTRACTS)

DEMENT'YEVA, V.V.

Aids for better understanding of the pharmacognosy course. Apt. delo. 11 no.5:57-59 S-O '62. (MIRA 17:5)

1. Gor'kovskoye farmatsevticheskoye uchilishche.

BERGOL'TS,V.M.; DEMENT'YEVA, V.V.

Use of the surviving spleen tissue culture for the detection of leucosogenic agent in human leukemic tissue. Biul. eksp. biol. i med. 60 no. 10:92-95 O '65 (MIRA 19:1)

1. Laboratoriya eksperimental'noy terapii opukholey (zav. - doktor med. nauk V.M. Bergol'ts) Gosudarstvennogo onkologicheskogo instituta imeni P.A. Gertsena (direktor - prof. A.N. Novikov), Moskva. Submitted November 5, 1964.

DEMENT'YEVA, Yekaterina Ivanovna; MAROV, M.A., red.; MAYSKAYA, N.I., red.; KAPRALOVA, A.A., tekhn. red.

[Adding machines; a manual for training operators] Summiruiushchie mashiny; posobie dlia obucheniia tekhnike raboty na mashine. Moskva, Gosstatizdat, 1962. 107 p. (MIRA 15:7)
(Calculating machines—Handbooks, manuals, etc.)

BELAVENTSEVA, Galina Nikolayevna; DEMENT'YEVA, Ye.V., red.; VASIL'YEVA, L.P., tekhn. red.

[Origin of man, life of the human organism; index to popular scientific literature] Proiskhozhdenie cheloveka, zhizn' chelovecheskogo organizma; ukazatel' nauchno-populiarnoi literatury. Izd.3., dop. i perer. Moskva, Gos. biblioteka SSSR im. V.I.Lenina, 1961. 44 p. (MIRA 14:12)
(BIBLIOGRAPHY--MAN--ORIGIN) (BIBLIOGRAPHY--PHYSIOLOGY)
(BIBLIOGRAPHY--HYGIENE)

DEMENT'YEVA, Ye.V.

Clinical aspects of occupational complications caused by aminazine. Zhur.nerv.i psikh. 59 no.12:1499-1500 '59. (MIRA 13:4)

1. 3-ya psikhiatricheskaya bol'nitsa (rukovoditel' - prof. M.A. Gol'denberg).
(CHLORPROMAZINE toxicol.)
(CONTACT DERMATITIS)

RELAVENT'SEVA, Galina Nikolayevna; DERYABINA, Tat'yana Nikolayevna; DEMENT'YEVA, Ye.V., red.; VASIL'YEVA, L.P., tekhn.red.

[Fighters for human health] Bortsy za zdorov'e cheloveka. Moskva, Gos.tsentr.nauchn.med.biblioteka, 1961. 28 p. (Besedy o nauchno-populiarnykh knigakh, no.9). (MIRA 14:4)

(BIBLIOGRAPHY--MEDICINE)

H/014/60/000/012/001/002
E190/E580

AUTHORS: Garay, László, Dipl.met.eng.and Demény, Antal, Dipl. chem.eng.

TITLE: Experiments on Extracting Selenium from the Sludges of the Electrolytic Copper Refining Plant of Csepel

PERIODICAL: Kohászati lapok, 1960, No.12, pp.529-535

TEXT: The only domestic source of copper is the ore of Recsk which is processed and Cu finally refined electrolytically at Csepel. The sludges are sent abroad for recovering gold and silver. If the processing were done in Hungary, the Ni, Se, Te etc. content could be reclaimed too. The present work, carried out in 1958, aimed at finding a suitable technique. The electrolytic refinery of Csepel uses anodes from several sources, therefore, the composition of sludges is not constant. In order to remove some of the copper, the sludge is leached in a Pachuca-type tank with a dilute sulphuric acid (actually regenerated electrolyte). The plant operates with poor efficiency, the Cu content drops from 25-30% to 15-20% and it was desirable that any new process should be suitable for reclaiming copper as well as

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selenium, wholly imported at present. Several propositions have been put forward in the past by various research workers. The present authors considered a number of possibilities and checked them by qualitative and quantitative experiments on a sample of sludge containing 1832 g Au/ton, 34552 g Ag/ton, 18.31% Cu, 5.53% Ni, 1.49% Se, 0.39% Fe, 18.67% Sb, 5.04% Pb and 1.21% Sn. As a result of these experiments the following process is proposed: The sludge is mixed with excess sulphuric acid and heated at 170-200°C for 1-2 hours, then transferred into an iron retort and roasted at 450°C for approximately 5 hours. The evolving gases contain Se and are led through HCl washtowers. The selenium precipitates in a very pure (min.99.5%) form; in the experiments, 78% of the Se content was recovered. On leaching the sulphated sludge with hot water, nearly 95% of the copper and nickel content was taken into solution; Ag was cemented from the liquor, As and Fe removed in the form of iron-arsenate, then Cu was electrolysed and Ni crystallized in the form of $NiSO_4$. Up to this point the process is considered suitable for immediate full-scale production but the next step needs further, larger scale experiments. This is the digestion of residues with HCl with a view to

recovering Sb and Sn; it was found that for some unexplicable reason this caused considerable loss of Au and made economic advantages of this step questionable. There are 5 figures, 1 table and 7 references: 1 Hungarian and 6 non-Hungarian.

Card 3/3

GARAY, Laszlo, okleveles kohomernok; DEMENY, Antal okleveles vegyeszmernok

Experiments for obtaining selenium from the dross of the copper-electrolysis plant at the Csepel Metal Works. Koh lap 93 no.12: 529-535 D '60.

DEMENY, Eva, Dr.

PAL FERENC, Dr.; DEMENY, Eva, Dr.

Changes in age distribution in tuberculosis mortality in Hungary in the last years. Nepegeszsegugy 38 no.7:171-175 July 57.

1. Közlemeny az Orszagos Koranyi Tbc. Intezet (igazgatohelyettes: Seri Istavan dr., tudomanyos vezeto: Sebo Lorand dr.) szervezesi-modszertani es statisztikai osztalyarol.

(TUBERCULOSIS, statist.
in Hungary, changes in age distribution in mortal. (Hun))

NYARADY, Ivan, dr.; FLESCH, Istvan, dr.; DEMENY, Eva, dr.

Data on the prevention of infantile mortality in tuberculosis.
Orv. hetil. 101 no.18:613-618 1 My '60.

1. Az Orszagos Kordyni Tbc. Intezet es a budapesti Kozponti Tbc. Gondozo Intezet.
(TUBERCULOSIS in inf.& child)

HUNGARY

DEMENY, Eva, M.D., [affiliation not given].

"Tasks of Tuberculosis Prevention"

Budapest, Orvosi Hetilap, Vol 104, No 20, 19 May 1963, pp. 949-952.

Abstract: In her letter to the editor, the author recommends various means whereby the prevention of tuberculosis in Hungary can be made more effective. PATER, Janos, M.D., welcomes the letter [in his note on p. 952].

1/1

DEMENY, Eva, dr.; TARNOK, Ivan, dr.

Tuberculin registry of the child population as reflected in the results of prevaccination screenings. Gyermekgyogyaszat 15 no.4:113-119 Ap'64

1. Az Orszagos Koranyi Tbc Intezet (Igazgato foorvos: Boszormenyi, Miklos, dr. kand.; tudomanyos igazgato: Foldes, Istvan, dr. kand.) kozlemenye.

*

DEMENY, Marta

Examination of sulphur dioxide oxidation on loosened fluid catalyst beds. Veszprem vegyip egy kozl 4 no.4:303-304 '60

1. Magyar Asvanyolaj es Foldgaz Kiserleti Intezet, Veszprem.

DEMENY, PETER

KESZTHELYI, Mihaly, dr.; DEMENY, Peter, dr.; FILIPP, Geza, dr.

Experimental studies with the anti-asthmatic drug AM-49.
Orv. hetil. 98 no.7-8:161-163 24 Feb 57.

1. A Debreceni Orvostudomanyi Egyetemi I. sz. Belklinikajanak (Igazgato: Fornet, Bela, dr. egyet. tanar) kozlemenye.

(ALLERGY, exper.
eff. of arsinic acid - gold salt - potassium iodide prep. in guinea pigs (Hun))
(ARSENICALS, eff.
arsinic acid - gold salt - potassium iodide prep. on exper. allergy (Hun))
(GOLD, eff.
gold salt - arsinic acid - potassium iodide prep. on exper. allergy (Hun))
(IODIDES, eff.
potassium iodide - arsinic acid - gold salt prep. on exper. asthma (Hun))

KESZTHELYI, Mihaly, Dr.; VARALLYAI, Istvan, Dr.; DEMENY, Peter, Dr.

Mass incidence of acute nephritis in small community. Orv. hetil. 99 no.51:1792-1793 21 Dec 58.

1. A Debreceni Orvostudomanyi Egyetem I. sz. Belklinikajanak (igazgato: Fornet Bela dr. egyet. tanar) es Kozegeszsegtani Intezetenek (igazgato: Jeney Endre dr. egyet. tanar) kozlemenye.

(NEPHRITIS, etiol. & pathogen.
streptoc., outbreak in small Hungarian community (Hun))
(STREPTOCOCCAL INFECTIONS, epidemiol.
nephritis outbreak in small Hungarian community (Hun))

BAN, Andras, dr.; SIRO, A.Bela, dr.; DEMENY, Peter, dr.; KACSKO, Janos, dr. CSOKONAI, Laszlo, dr.

Effect of large doses of pyrexal, a bacterial pyrogen, on the leukocytes. Magy.belorv.arch.13 no.5:131-135 O '60.

1. A Debreceni Orvostudomanyi Egyetem I. Belklinikajanak (Igazgato: Dr.Fornet Bela egy. tanar) kozlemenye.
(PYROGENS pharmacol)
(LEUKOCYTES pharmacol)
(LIPOPOLYSACCHARIDES pharmacol)

HANKISS, Janos; DEMENY, Peter; KESZTHELYI, Mihaly

Experimental data on the mechanism of ADH distribution in the tissue. Kiserletes Orvostud. 13 no.1:11-18 Mr '61.

1. Debreceni Orvostudomanyi Egyetem, I. sz. Belgyogyaszati Klinikaja.
(VASOPRESSIN metab)

HANKISS, J.; DEMENY, P.; KESZTHELYI, M.

The mechanism of ADH-inactivation in tissues. Acta med. Acad. Sci. Hung. 18 no.1:17-25 '62.

1. First Department of Medicine, University School of Medicine, Debrecen (Director: Professor B. Fornet)

(VASOPRESSIN metab)

ACC NR: AP6001949 SOURCE CODE: HU/0018/65/017/001/0028/0031

AUTHOR: Hankiss, Janos--Khankish, Y.; Keszthelyi, Mihaly--Kestkhei, M.; Demeny, Peter--Demen', P

ORG: I. Medical Clinic, Medical University of Debrecen (Debreceni Orvostudomanyi Egyetem I. sz. Belklinikaja)

TITLE: Adrenocortical hormones and ADH decomposition

SOURCE: Kiserletes Orvostudomany, v. 17, no. 1, 1965, 28-31

TOPIC TAGS: hormone, endocrinology, biochemistry

ABSTRACT: It has been determined that the ADH decomposition in the liver and renal tissue of either normal or adrenalectomized animals is not influenced by adrenocortical hormones. Even higher doses of hydrocortisone and DOCA have not increased the ADH decomposition. It has been concluded that the influence of corticoids on the water balance is not exerted through the decomposition of ADH. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 29Feb64 / ORIG REF: 004 / OTH REF: 031

Card 1/1

DEMENY, Zoltan, correspondent

The score of the competition. Constr Buc 14 no.672:1 24 N '62.

DEMENY, Zoltan, corespondent

Monthly task surpassed by 56%. Constr Buc 14 no. 675:
1 15 December 1962.

DEMENY, Zoltan

Activity of the Committee of Engineers and Technicians of the I.M.S., Cluj. Constr Buc 14 no.676:4 22 D'62

1. Membru in comitetul sindicatului I.C.M.-Cluj.

CHISALITA, Adrian (Cluj); BAZACOV, Ch. (Turnu Severin); BATINETU, D.M. (Bucuresti); CASANDROIU, T.; IONESCU-TIU, C.; DEMENY, Zoltan, prof. (Aiud)

Solved problems. Gaz mat B 15 no.1:17-24 Ja '64.

STANCIU,B., tehnician; DEMENY, Zoltan, tehnician; CRETU, Radu, tehnician; GORGAN,M.; SIMIONESCU, Mircea, economist.

Successes in socialist competition. Constr Buc 16 no.737:1 22 F'64.

DEMENY, Zoltan, tehnician

Eighty cubic meters of concrete are pouring into foundations daily. Constr Buc 16 no.7368l 15 F'64.

DEMENY, Zoltan

Increased obligations. Constr Buc 16 no.744:3 11 April '64.

1. Din subredactia voluntara de la Cluj.

BAGHINA, V., prof. (Breaza); BAZACOV, Gh.; IONESCU-TIU, C.; DEMENY, Zoltan (Aiud); CASANDROIU, Tudor (Bucuresti); ALBESCU, Ion (Fagaras)

Solved problems in mathematics. Gaz mat B 15 no.4:153-166 Ap '64.

EPUREANU, Mircea, tehnician; MITRACHE, Elena, ing.; DEMENY, Zoltan, tehnician

Reduced consumption of wood for construction site organization. Constr Buc 16 no. 749:3 16 May '64.

1. Regional Trusts for Housing Construction, Arges (for Mitrache).

DEMERDZHI, D.

KUSHAKOVS'KIY, Lev Naumovich; DEMERDZHI, D., redaktor; KOLOMOYTSEVA, V., tekhnicheskiy redaktor

[Solenyy Liman Health Resort in Dnepropetrovsk Province] Likuval'na mistsevist' Solonyi lyman na Dnipropetrovshchyni. [Dnipropetrovs'k] Dnipropetrovs'ke obl.vyd-vo, 1957. 47 p. (MLRA 10:9)
(SOLENYY LIMAN)

DEMERDZHI, D.

SHOSTOK, Afanasiy Grigor'yevich; POLONSKIY, Mikhail Isakovich; DEMERDZHI, D., redaktor; KOLOMOYTSEVA, V., tekhnicheskiy redaktor

[Novye metody prokhodki stvolov shakht i vosstaiushchikh. [Denpropetrovsk] Denpropetrovskoe obl.izd-vo, 1957. 59 p. (MLRA 10:9)
(Mining engineering)

VATCHENKO, G. [Vatchenko, H.]; OGRYZKINA, O. [Ohryzkina, O.]; STRUCHKOVA, N.; KHANIAS-NIBO, M.; CHERNYKH, O.; CHUMACHENKO, V.; SHEVCHENKO, G. [Shevchenko, H.]; DEMERDZHI, D., red.; SHTEYN, M., red.; KOLOMOYTSEVA, F., tekhn.red.

[Dnepropetrovsk; reference-guidebook] Dnipropetrovs'k; dovidnyk putivnyk. Vyd.2., vypravlene i dop. Dnipropetrovs'k. Dnipropetrovs'ke knizhkove vyd-vo, 1959. 300 p. (MIRA 13:8)

1. Dnepropetrovskiy gosudarstvennyy istoricheskiy muzey (for all, except Demerdzhi, Shteyn, Kolomoytseva).
(Dnepropetrovsk--Guidebooks)

BOBOSHKO, Konstantin Klement'yevich; DEMERDZHI, D.L., red.; DISHKANT, G.P., spets.red.; GLUSHKO, G.I., tekhn. red.

[The goldfish serves man; a book for the inquisitive]Zolotaia rybka sluzhit cheloveku; knizhka dlia liuboznatel'nykh. Dnepropetrovsk, Dnepropetrovskoe knizhnoe izd-vo, 1960. 176 p. (MIRA 14:6)
(Electronics—Juvenile literature)

MALYUK, Vasiliy Yefremovich, lektor; KHANIAS-NIBO, Nikolay Yakovlevich, nauchnyy sotr.; CHUMACHENKO, Vasiliy Petrovich, nauchnyy sotr.; DEMERDZHI, D.L., red.; GLUSHKO, G.I.[Hlushko, H.I.], tekhn. red.

[Dneprodzerzhinsk; reference and guidebook] Dniprodzerzhins; dovidnyk-putivnyk. Dnipropetrovsk, Dnipropetrovs'ke knyzhkove vyd-vo, 1960. 165 p. (MIRA 15:1)

1. Dneprodzerzhinskiy gorodskoy komitet Kommunisticheskoy partii Ukrainy (for Malyuk). 2. Dnepropetrovskiy gosudarstvennyy istoricheskiy muzey (for Khanias-Nibo, Chumachenko).
(Dneprodzerzhinsk--Guidebooks)

SVOYATITSKAYA, S.T. [Svoiatyts'ka, S.T.]; SERGEYENKOVA, P.M. [Serhiienkova, P.M.]; GALUSHKINA, I.M. [Halushkina, I.M.]; FEDOTOVA, V.O.; NOSOV, M.P.; SUFIK, B.I.; PEREDERIY, A.T.; PRIKHOD'KO, V.F., otv. za vypusk; DEMERDZHI, D.L., red.; GLUSHKO, G.I. [Hlushko, H.I.], tekhn.red.

[Economy of Dnepropetrovsk Province; statistical collection] Narodne hospodarstvo Dnipropetrovs'koi oblasti; statystychnyi zbirnyk. Dnipropetrovs'k, Dnipropetrovs'ke knyzhkove vyd-vo, 1960. 221 p. (MIRA 13:12)

1. Dnepropetrovsk (Province) Statisticheskoye upravleniye. 2. Dnepropetrovskoye oblastnoye statisticheskoye upravleniye (for Svoyatitskaya, Sergeyenkova, Galushkina, Fedotova, Nosov, Sufik, Perederiy). 3. Nachal'nik Dnepropetrovskogo oblastnogo statisticheskogo upravleniya (for Prikhod'ko).
(Dnepropetrovsk Province--Statistics)

DEMEREC, MILISLAV.

SCIENCE

DEMEREC, MILISLAV. Dva predavanja o genetici mikroorganizma; o genima i mutacijama na bakterijama i bakteriofagima u svijetlu najnovitjih istrazivanja, antigiotici i genetika.

Zagreb 1955. 38 p.

Monthly Index of East European Accessions (EEAI) LC, Vol. 8, No. 4, April, 1959

DEMES, M.

Whirling screw cutting. p. 19
Belgian periodical on the Hungarian inventor of the Dynamo. p. 21
Proposal of the Scientific Association of the Machine Industry to train and to conduct refresher courses for welders. p. 22.
No. 20, Oct. 1955. MUSZAKI ELET. Budapest, Hungary.

So: Eastern European Accession. Vol 5, no. 4, April 1956

ABANIN, Yu.I., inzh.; BAKUMA, M.F., inzh.; DEMESHCHENKO, P.A., inzh.

Modernization of a turbine of 20 million watts. Elek.sta. 30 no.1: 37-41 Ja '59. (MIRA 12:3)
(Steam turbines)

DEMESHEV, S.S.

On waterways and in seaports. Transp. stroi. 14 no.1:26-27 Ja '64. (MIRA 17:8)

1. Nachal'nik Glavnogo upravleniya po stroitel'stvu morskikh i rechnykh sooruzheniy.

DEMESHEV, S.S.

Hydraulic engineering is on the upswing. Transp. stroi. 14 no.11:4-6 N '64. (MIRA 18:3)

1. Nachal'nik Glavnogo upravleniya po stroitel'stvu morskikh i rechnykh sooruzheniy Ministerstva transportnogo stroitel'stva SSSR.

DEMESHEVA, G.A.; IVANCHIKOVA, M.I.; KRIVOSHAPKIN, M.A.; LEYCHIK, V.M.; OVSYANKINA, V.I.; FEOKTISTOVA, V.P.; TSINMAN, M.Z.; BEKKULOVA, S.N.; SUBKHANBERDINA, K.Kh.; RUBAKOV, P.I., laureat Stalinskoy premii, spetsial'nyy redaktor; BALANINA, O.V., kandidat sel'skokhozyaystvennykh nauk, spetsial'nyy redaktor; SAKHAROVA, V.M., spetsial'nyy redaktor; KOSENKO, V.V., spetsial'nyy redaktor; ZHIZNEVSKIY, F.V., otvetstvennyy redaktor; BURLACHENKO, L.A., redaktor; ALFEROVA, P.V., tekhnicheskiy redaktor

[Experience of agricultural leaders of Kazakhstan; an annotated bibliography] Opyt peredovikov sel'skogo khoziaistva Kazakhskoi SSR; annotirovannyi ukazatel' literatury. Alma-Ata, 1955. 290 p. (MLRA 9:12)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. TSentral'naya nauchnaya biblioteka. 2. TSentral'naya nauchnaya biblioteka Akademii nauk Kazakhskoi SSR. (for Demesheva, Ivanchikova, Krivoshapkin, Leychik, Ovsyankina, Feoktistova, TSinman)
(Bibliography--Kazakhstan--Agriculture)

DEMESHEV, S.

The Volga-Baltic Sea Waterway is a unique hydraulic engineering structure. Rech. transp. 23 no.7:23-26 Jl '64.
(MIRA 17:10)

1. Nachal'nik Glavnogo upravleniya po stroitel'stvu morskikh i rechnykh sooruzheniy.

DEMESHIN, A.I.; SIDORENKO, O.A., red.

Ochakov. Odessa, "Maiak," 1965. 35 p. (MIRA 18:12)

1. DEMESHIN, P. I.

2. USSR (600)

4. Moscow University

7. Furniture for the new Moscow University building. Der.i lesokhim. prom. No. 6 - 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

DEGTYARIN, P.I., inzhener.

Some observations on furniture designing. Der.i lesokhim.prom. 2 no.11:10 N '53. (MLRA 6:11)

1. TsMPKB Glavmebel'proma. (Furniture)

DEMESHIN, P.I.; KAZANSKIY, N.M., redaktor; VOROB'YEVA, N.N, redaktor; KARASIK, N.P., tekhnicheskiy redaktor

[Cabinetwork] Konstruirovanie stoliarnykh izdelii. Moskva, Goslesbumizdat, 1954. 279 p. (MLRA 7:9)
(Cabinetwork)

DEMESHIN, P. I.

CHULITSKIY, N.N., doktor tekhnicheskikh nauk.

"Textbook for cabinet makers and carpenters." P.I.Demeshin.
Reviewed by N.N.Chulitskii. Der.prom.4 no.1:30-31 Ja'55.
(Cabinetwork)(Carpentry) (MLRA 8:3)

DEMESHIN, P.I.

PE'LOZ'YAN, Andronik Borsegovich; DEMESHIN, P.I., red.; SIDEL'NIKOVA, L.A., red.izd-va; SHITS, V.P., tekhn.red.

[Technical control in woodworking plants] Tekhnicheskii kontrol' na derevoobrabatyvaiushchikh predpriiatiiakh. Moskva, Goslesbumizdat, 1956. 107 p. (MIRA 11:6)
(Woodworking industries)

KHOLMOGOROV, V.N.; DEMESHIN, P.N.

Device for upholstering stuffed furniture. Der.prom. 4 no.4: 27 Ap '55. (MLRA 8:6)
(Upholstery)

DEMESHIN, V.P.; KOSTETSKAYA, I.; NOVIKOV, A.I.; POZIN, M.V.; KASHIRIN, V.A.

List of Russian and translated literature on telemetering for 1950-1954. Avtom. i telem. 16 no.4:409-410 Jl-Ag '55. (MLRA 9:2)
(Bibliography--Telemetering)

DEMESHIN, V. P.

"Frequency Transformer with a Nonlinear Control Element (Chastotnyy preobrazovatel' s nelineynym upravlyayashchim elementom) from the Telemechanization in the National Economy, pp. 282-292, Iz. AN SSSR, Moscow, 1956

(Given at meeting held in Moscow 29 Nov to 4 Dec 54 by Inst. of Mk Automatics and Telemechanics)

DEMESHIN, V. P.

AUTHORS: Belevich, K.V., Demeshin, V.P., Il'in, V.A. 103-10-7/10
Suvorov, G.B. (Moscow)

TITLE: The System of Remote Control for Oil Fields. (Sistema radio-telemekhaniki dlya neftepromyslov)

PERIODICAL: Avtomatika i Telemekhanika, 1957, Vol. 18, Nr 10, pp. 934-936 (USSR)

ABSTRACT: In cooperation with the design office for the manufacture of apparatuses (KBNP) the Institute for Automation and Remote Control of the Academy of Science of the USSR has developed a remote radio control system with an ultra short wave radio channel for centralized controlling of the entire oilfield according to the results of analysis on the principles for the construction of systems with spread objects. The system secures for each remotely controlled bore hole 1) an automatic transmission of the damage-signal to the dispatcher point, 2) Remote measuring of the bore hole debit without signal of the dispatcher by means of transmission of the signal over the filling of the automatized holding capacity. 3) A bilateral telephone-radio-communication with signal call of the dispatcher. A detailed description of the apparatus follows. The apparatus was tested and set to work on the Tuymazeneft' oilfield. The Technical Council of the Ministry

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The System of Remote Control for Oil Fields. 103-10-7/10

for Petroleum Industry of the USSR has ordered the mass production of the apparatus.. There are 3 figures.

SUBMITTED: May 14, 1957

AVAILABLE: Library of Congress

DEMESHIN, V. P.

V. P. Demeshin, "Electrical method of frequency control of a stable RC generagor." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep 58.

A new method of controlling the frequency of an RC generator by using an element with a linear-broker line characteristic (diode) is reported. The diode is connected in a loop consisting of two resistors. The input resistance of this poop varies periodically under the effect of alternating and direct voltage. If such a loop is introduced into the phase-shift loop of an RC generator and the magnitude of the control voltage is altered, then the oscillation frequency in the generator will vary simultaneously.

An RC generator with a controlling diode is a complex nonlinear system containing inertialess and inertial nonlinearities.

On the basis of an analysis of this method of controlling the frequency of an RC generator, circuits have been developed which permit a frequency change of 2-5 times at frequencies from 15 cps to mcps to be obtained.

DEMESHIN, V. P.

93-58-3-9/17

AUTHOR: Geshelin, M. G.; Demeshin, V. P.; Il'in, V. A.

TITLE: A System for the Telemechanization of Oilfield Operations With the Aid of Radio Channels (Sistema dlya telemekhanizatsii neftepromyslov s radiokanalom)

PERIODICAL: Neftyanoye khozyaystvo, 1958, Nr 3, pp 35-41 (USSR)

ABSTRACT: The article describes a central radio telecontrol system designed according to specifications which were approved by the former Technical Council (Tekhnicheskiy sovet) of the USSR Ministry of the Petroleum Industry. The system includes automatic transmission of emergency signals and oil yield data to a central station, and two-way radiotelephone communication. Emergency signals are transmitted from contact transmitters which were developed and produced by the Design Office of the Petroleum Industry (KB NP) and by the Institute of Automation and Telemechanics of the Academy of Sciences (IAT AN). The wells are grouped in from 1-17 clusters of 1-20 wells each. The system includes a minimum number of relays (Fig. 1), an R-106 radio station with 18 fixed waves, a transmitting unit (Fig. 3), a coding unit and generators (Fig. 4), and a decoding unit with a group amplifier (Fig. 5). Fig. 2 shows the general structure of a system operating on the principle of frequency selection and

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A System for the Telemechanization of Oilfied Operations (Cont.)

includes 20 radio channels. The coding apparatus and generators represent one unit consisting of a radio tube, two thyratrons with a cold MRCh-90 cathode, three RKM electromagnetic relays, and two RC generators with discharge tubes. The electric field intensity of the wells is given in Table 1. The system was successfully tested at the 5th oilfield of the State All-Union Association of the Tuymazy Oil and Gas Industry (Tuymazaneft'), and proved highly reliable, simple, and suitable for the telemechanization of oilfield operations in the Eastern regions. Serial production of apparatus for the SHP-1 system will be organized in two plants in 1958. There are 6 figures and 1 table.

AVAILABLE: Library of Congress

Card 2/2

AUTHOR: Demeshin, V. P. (Moscow) 103-19-7-7/9

TITLE: Electric Methods for the Control of the Frequency of a Stable RC-Generator (Elektricheskiy sposob upravleniya chastotoy stabil'nogo RC-generatora)

PERIODICAL: Avtomatika i telemekhanika, 1958, Vol 19, Nr 7, pp. 695 - 707 (USSR)

ABSTRACT: Here the simple electric method for the control of the frequency of a highly stable RC-generator, which was suggested by V.A. Il'in , is investigated. This method allows a wide variation of the frequency in a range from some dozens of cycles to some megacycles. The control of the frequency of the RC-generator is based upon the application of a circuit with an element with a piecewise linear characteristic, whereby the circuit is fed by an alternating and continuous voltage. The control is a simple circuit consisting of two resistances and one diode. First the oscillation process in a most simple transformer with one diode is examined. Then the stabilisation process in a generator with a control diode is investigated. On the basis of these investigations a number of converter circuits was worked out. These apply

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the same control principle, but the most essential deficiencies of the simplest circuits are removed. Several circuits of this kind are shown. Finally diagrams are given. 1)Dependence of the oscillation frequency on the control voltage in case of a ratio of the circuit constants equal to 6. The oscillation frequency on this occasion varies by more than the three-fold. The domain with a non-linearity below 2% is 75% of the total domain of the frequency variation. 2) Magnitude of the maximum frequency deviation on occasion of control for various ratios of the circuit constants. If this ratio is more than 10, the frequency changes by the six-fold and by more. A converter with such a type of control has a high stability. 3) Dependence of the frequency on the anode voltage of the tube. In case of variation of the supply voltage by from -15 - + 35% the frequency only varies by 0,08% or for 0,004 in case of a variation of the supply voltage by 1%. The disadvantage of the converters with a control diode has a principal character and cannot be removed. It is the shape distortion of the produced voltage.

USSR/Electricity Jan 49
Dielectrics
Polarization

"A New Form of Dielectric Polarization and Losses in Polycrystalline Dielectrics," G. I. Skanavi, A. I. Demeshina, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 16½ pp

"Zhur Eksper i Teoret Fiz" Vol XIX, No 1

Investigates dielectric permeability and angle of loss of polycrystalline rutile, containing impurities of oxides of metals in the second group of Mendeleyev's System, at various frequencies and temperatures. Shows that dielectric

30/49T54

USSR/Electricity (Contd) Jan 49

permeability at low frequencies (up to 10-20 kc) attains very high values (of the order of 1,000) for specimens of rutile containing small amounts of strontium, calcium, barium and zinc oxides. Angle of loss is higher, and has well-defined temperature-frequency maximums. Effect decreases with increased alkaline earth metal concentration. Shows experimental results in first approximation agree with previously developed theory of relaxation polarization of losses caused by weakly linked ions. Activation energy of weakly linked ions and their oscillation frequency at the point of attachment, calculated from experimental data, have anomalously low values. Thus a new type of dielectric polarization has been established experimentally. Submitted 20 Jun 48.

30/49T54

DEMESHINA, A.

CA DEMESHINA, A.I.

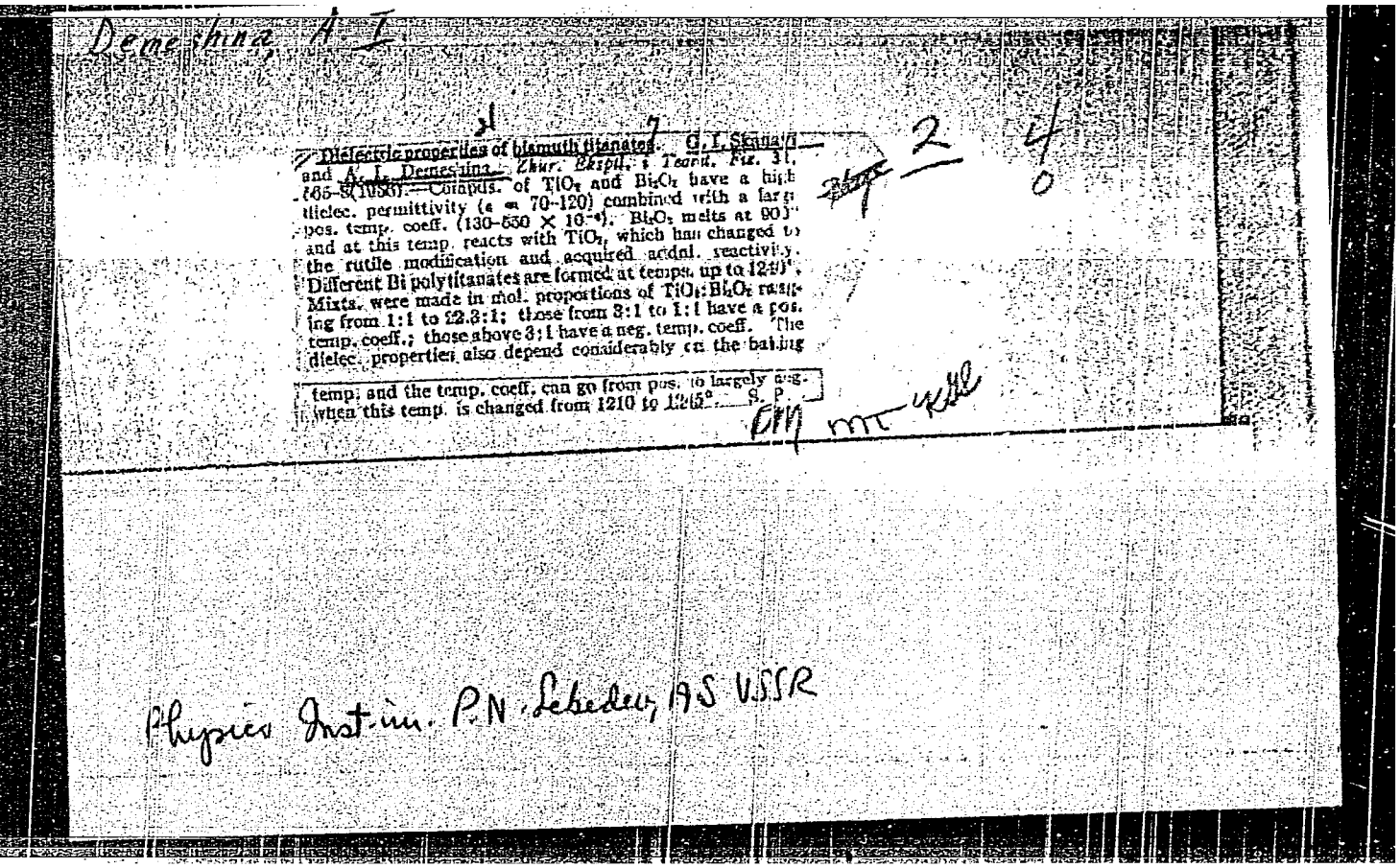
Nonlinearity of the dielectric relaxation polarization in solid dielectrics. G. I. Skanavi, A. I. Demeshina, and S. V. Bogdanov (P. N. Lebedev Inst. Phys., Acad. Sci. U.S.S.R., Moscow). *Zhur. Eksptl. Teoret. Fiz.* 21, 684-92(1951); cf. *C.A.* 43, 5761*e*; 44, 4738*d*.—Oscillograms of the elec. charge d. σ on the electrodes as a function of the mean macroscopic field strength E, for polycryst. rutile contg. 1.25 mol. SrO/100 mol. TiO_2, at 20°, 50 hertz, under 2, 4, and 6 kv./cm., have the elliptic shape characteristic of relaxation polarization. The slope of the curve decreases with increasing field strength E, i.e. the dielec. const. ϵ decreases; this is also confirmed by measurements of the capacity. The nonlinearity of the polarization as a function of E diminishes with increasing content of SrO or CaO in the rutile; it disappears altogether for $SrTiO_3$ and $CaTiO_3$. (With $BaTiO_3$, which has a spontaneous polarization ϵ increases with E linearly instead of decreasing.) The variation of ϵ with E is more pronounced at lower E; in strong fields, ϵ tends to become independent of E. Theoretically, the dependence of ϵ on E can be obtained from a consideration of the passage of weakly bound ions over a potential barrier; nonlinearity of the polarization is inevitable if the work of the field Δu along the path of the ion is not too small as compared with the energy of thermal motion kT. For $\Delta u \ll kT$, the differential equation describing the passage of the ion from one potential well to another becomes $d(\Delta n)/dt = -2(\Delta n)\nu e^{-u/kT} + (n_0 \Delta u/3\ kT)\nu e^{-u/kT}$, where Δn is the change of the no. of ions occupying the 1st or the 2nd potential well, n_0 is the no. of weakly bound ions per cc., ν the vibration frequency of these ions in the potential well, u = potential barrier betw. the 2 wells distant by x. This equation leads to proportionality between the polarization and E, i.e. to independence of ϵ of E. If Δu is not very much smaller than kT, the equation is of the form $(dI/dt)(e^{\Delta u/kT}/\sigma) = -I(e^{\Delta u/kT} + e^{-\Delta u/kT}) + (n_0 q x/6)(e^{\Delta u/kT} - e^{-\Delta u/kT})$, where I is the elec. moment of unit vol. and q the charge of the ion. For its soln., the distinction between E and E must be considered; it is of the form $E = \beta(E + {}^4/_3\pi I)$ (where β depends on the structure coeffs. of the internal field and the polarizability of the ions) or $E = (4\pi I/3)[3\beta/(\epsilon - 1)] + 1]$. If the change of β with E is disregarded, then the usual approxn., $E = E + \beta I$ can be taken, and hence $\Delta u = (qx/2)(E + \beta I)$. By development of the exponentials in series, it is found that, in this approxn., I has, besides a 1st harmonic, also a 3rd harmonic. Expressions obtained for ϵ and $\tan\delta$ show a dependence on E. With the notation $e^{u/kT} = \beta$; $n_0 qx/6 = A$, and $\gamma = 1 - \beta\alpha A$, where $\alpha = qx/2kT$, it is found that ϵ decreases with increasing E if $\omega\theta < \gamma$, and increases if $\omega\theta > \sqrt{3}\gamma$; the latter is the case in the low-temp. range, and the former at higher temps. At the temp. corresponding to the max. of the loss angle $\tan\delta$ ($\omega\theta \sim 1$), ϵ is practically independent of E; at higher temps. ϵ decreases, and at lower temps. it decreases with increasing E. This conclusion is confirmed by exptl. data for rutile with 1.25 mols. SrO/100 mols. TiO_2 at 50 hertz, at 95, 20, −80, and −130°. The max. of $\tan\delta$ lies at −90°. Above −90°, ϵ decreases, and below −90° it increases with increasing E_m (amplitude of $E = E_m \cos\omega t$), whereas at −90°, ϵ is practically independent of E_m. This material has a 2nd max. of $\tan\delta$ at +250°; consequently, it has at least 2 relaxation times θ_1 and θ_2, and the foregoing calcns. should be applied to each of them. The overall variation of ϵ with E is the result of the superposition of the variations of both groups of ions, each with its own θ.

N. Thon

CA DEMESHINA, A. I. 2

Temperature "hysteresis" of the electric conductivity of solid dielectrics with relaxation polarization. G. I. Shanavi, A. I. Demeshina, and A. G. Chelashvili (Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 76, 673-6(1951); cf. *C.A.* 44, 4738d.—Polycryst. rutile heated with SrO, 1.25 moles/100 moles TiO_2, shows pronounced relaxation polarization, with high values of the dielec. const. ε and a max. of the loss angle tan δ as a function of the frequency; data for one sample, at 20°, at 0.05, 1, 10, 55, 110, 1000 kilohertzes, are, ε = 1680, 1260, 720, 400, 330, 220; tan δ = 0.10, 0.25, 0.64, 0.82, 0.35, 0.20. Such dielectrics also show a peculiar anomaly of the elec. cond. δ. With increasing temp., in a const. elec. field of 1.5-3 kv./cm., γ increases, first slowly, then rapidly; on cooling, γ decreases much more slowly, remaining by several orders of magnitude higher than at the same temp. along the ascending branch. The fall of γ is exponential. Heating in an elec. field, to 300°, gives rise to a residual increase of γ and the plot of log γ as a function of (1/T) shows a hysteresis loop. This loop becomes increasingly narrower on repetition of the heating-cooling cycle in an elec. field, and finally becomes a single straight line coinciding with the line of the first cooling. If, along the rising-temp. branch, the sample is kept for some time at a const. high temp. (200°), the current is const. in a field of ~300 v./cm., but increases with time in a strong field, 3 kv./cm., and levels off to a const. value. The high-voltage polarization *p* remains high and const. up to close to 200°, then falls abruptly with further rising temp. and with time. The hysteresis of γ is due primarily to this behavior of *p* which causes the increase of the current at high temps. and in strong fields. However, even with high-voltage polarization allowed for, γ' (the "true" cond.) still shows hysteresis. Consequently, the observed hysteresis must be due, at least partly, to changes of the no. of the current carriers. On 1st heating, electrons are drawn from relatively shallow levels, which become depopulated in sufficiently strong fields at about 130-180°, causing a slight drop of γ at that temp. With further rising temp., electrons are drawn from deeper levels, get into the conduction zone and hence onto shallow local levels. The current increases with time until equil. is established. On cooling in an elec. field, electrons are drawn from filled shallow levels, the no. of which is greater than on heating; transition of electrons from the conduction zone onto deep local levels appears to be hindered. Hysteresis of the elec. cond., and relaxation polarization, respond in the same way to the same factors. A heating-cooling cycle in a strong elec. field decreases the low-frequency ε by 10-15%. Annealing at 800° increases ε at low frequencies, and, at the same time, increases γ and restores the previous hysteresis loop. The changes due to annealing tend to diminish slowly with time. The main relaxation polarization, attributed to loosely bound ions, is accompanied by a polarization depending on the no. of electrons on local levels. Inasmuch as changes of ε are observed only at low frequencies, it is necessary to assume that these electrons are bound with particles of relatively large mass. N. Thon

1951



Demeshina, A. I.

Dielectric properties of bismuth titanates. G. I. Skanavi and A. I. Demeshina. *Zhur. Eksptl. i Teoret. Fiz.* 31, 685-8(1956).—Compds. of TiO_2 and Bi_2O_3 have a high dielec. permittivity (ϵ = 70–120) combined with a large pos. temp. coeff. (130–550 × 10^{-4}). Bi_2O_3 melts at 903° and at this temp. reacts with TiO_2, which has changed to the rutile modification and acquired addnl. reactivity. Different Bi polytitanates are formed at temps. up to 1249°. Mixts. were made in mol. proportions of TiO_2:Bi_2O_3 ranging from 1:1 to 12.3:1; those from 3:1 to 1:1 have a pos. temp. coeff.; those above 3:1 have a neg. temp. coeff. The dielec. properties also depend considerably on the baking temp. and the temp. coeff. can go from pos. to largely neg. when this temp. is changed from 1210 to 1260°.—S. P.

2 40

Physics Inst-im. P.N. Lebedev, AS USSR

57-28-4-9/30

AUTHORS: Skanavi, G. I. , Demeshina, A. I.

TITLE: The Neutralization Effect in Silicate Glasses (Neytralizatsionnyy effekt v silikatnykh steklakh)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 4, pp.748-754 (USSR)

ABSTRACT: It was the purpose of the present paper to examine the occurrence of a neutralization effect in silicate-alkali-glasses at considerably different frequencies and temperatures. The samples of the ternary SiO_2-K_2O-Na_2O system at a high concentration of the alkaline oxides (50 parts by weight sodium- and potassium-oxides per 100 parts by weight SiO_2) and a different ratio of the Na_2O- and K_2O-concentrations were produced in the Institute for Glass (Z. M. Syritskaya and T. A. Popova). But these glasses, however, were chemically not stable and hydroscopic. Then the glasses with 25 parts by weight sodium- and potassium-oxides per 100 parts by weight SiO_2 were used. In order to be able to measure the temperature dependence of the dielectric constants and the angle

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The Neutralization Effect in Silicate Glasses

of the dielectric losses, ground 1 mm samples with surface of from 3 - 4 cm^2 were produced. The measurement of ε and tg δ was made at the Q-meter at a frequency of 3,1 megacycles. The error of measurement in the case of ε was $\pm$ 3 % and in the case of tg δ $\pm$ 10 %. At a frequency of 1 kilocycle ε and tg δ were measured at the bridge with audio-frequency. The error in the measurement of ε and tg δ was 2 %. It is shown: 1) In the ternary SiO_2-Na_2O-K_2O system not only a tg δ-minimum in dependence on the concentration ratio of K_2O and Na_2O at a constant summary concentration of those substances exists, but also an ε-minimum. 2) The absolute values of tg δ and ε decrease in glasses of all concentrations with an increase in frequency and the neutralization effect is somewhat smoothed out. 3) The modification of the concentration-ratio of Na_2O and K_2O in the silicate-glass does not only influence the magnitude of tg δ and ε at room temperature, but also the entire temperature course of ε and tg δ in the range of high temperatures. The more the ratio of Na_2O and K_2O differs from the optimum one, at the lower temperatures the tg δ- and ε-increase takes place. 4) The tg δ- and ε-increase

The Neutralization Effect in Silicate Glasses

with a rise of temperature is more marked in silicate-sodium-glass than in silicate-potassium-glass. 5) At a rise of temperature the tg δ - and ε -minima lie lower as well at the audio-frequency as at higher frequencies. The low of position of the minima increases with a reduction of frequency. 6) At a drop in temperature, especially at low frequencies, tg δ has a tendency to rise . 7) The dielectric losses at elevated temperatures are connected with the relaxation of the alkali-ions. 8) The increase in dielectric losses at low temperatures can be brought into connection with the relaxation of the structure-lattice of glass (according to Ref 8). It is especially emphasized that the neutralization effect was here for the first time not only observed for tg δ , but also for ε in glasses of the above-mentioned ternary system. There are 12 figures, 1 table, and 9 references, 6 of which are Soviet.

57-28-4-9/39

The Neutralization Effect in Silicate Glasses

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moskva
(Moscow, Institute for Physics imeni P. N. Lebedev, AS USSR)

SUBMITTED: April 15, 1957

Card 4/4

S/053/60/071/004/004/004
B004/B056

AUTHORS: Vul, B. M., Konorova, Ye. A., Demeshina, A. I.

TITLE: Georgiy Ivanovich Skanavi (Deceased)

PERIODICAL: Uspekhi fizicheskikh nauk, 1960, Vol. 71, No. 4, pp. 681 - 685

TEXT: On November 11, 1959 G. I. Skanavi, a prominent Soviet research scientist in the field of dielectrics died. He was Head of the laboratoriya fiziki dielektrikov Fizicheskogo instituta im. P. N. Lebedeva AN SSSR (Laboratory of Physics of Dielectrics of the Institute of Physics imeni P. N. Lebedev of the AS USSR) and Professor of the Moskovskiy gosudarstvennyy universitet im. Lomonosova (Moscow State University imeni Lomonosov). Skanavi finished his studies at the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute) in 1931, and began working at the plant "Elektrosila", where he had already given proof of his abilities of a research worker in the works laboratory. In 1935 he entered the Nauchno-issledovatel'skiy institut radiopromyshlennosti (Scientific Research Institute of the

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Radio Industry), and in 1940 he began his activities at the Institute of Physics imeni B. N. Lebedev of the AS USSR, first in the capacity of senior scientific worker, and later as deputy of the Head of the elektrofizicheskaya laboratoriya (Electrophysical Laboratory), and since 1954 as Head of the Laboratory of the Physics of Dielectrics, which became the leading laboratory in this field of the Soviet Union. The first works (1931-1935) of the deceased dealt with the high-voltage insulation of electrical machines. His method of removing the corona, and his method of testing insulation were used in industry. Skanavi became Candidate of Physical and Mathematical Sciences in 1937. Many of his works dealt with the dielectric losses and with polarization in glasses. Skanavi drafted the theory of relaxative losses, and discovered the neutralization- and crystallization effect of loss reduction. During the war he investigated polycrystalline dielectrics at the Institute of Physics, produced new dielectrics with a high dielectric constant, and developed a theory, which explains the high dielectric constant of crystals. It was upon these works that the Doctor's dissertation defended by him in 1946 was based. For the industrial production of ceramic capacitors developed by him, he was awarded the Stalin Prize

Georgiy Ivanovich Skanavi (Deceased)

S/053/60/071/004/004/004
B004/B056

in 1952. In recent years Skanavi, assisted by the collaborators of his laboratory, produced dielectrics with a particularly high dielectric constant: the strontium-bismuth-titanates. In 1958 the first strontium-titanate single crystals were obtained at his laboratory. During the investigation of the electric strength of dielectrics the photoconductivity of KBr crystals stimulated by high voltage pulses was discovered. Further, Skanavi delivered the glass substances known as "pyroceram" with finely disperse crystalline phase and a new class of electrets. Besides his scientific activities, Skanavi was for several years the Head of the works laboratory of a radiotechnical factory in Moscow. He published more than 70 scientific works, among them the monograph "Fizika dielektrikov" in two volumes. For several years Skanavi was the scientific secretary of the Institute of Physics, and Member of the Byuro otdeleniya fiziko-matematicheskikh nauk AN SSSR (Bureau of the Branch of Physical and Mathematical Sciences of the AS USSR). Since 1944 Skanavi has been Member of the Communist Party of the Soviet Union, and since recently also Secretary of the Party Committee of the Institute of Physics. There are 1 figure and 55 Soviet references.

Card 3/3

S/181/62/004/010/057/063
B102/B104

AUTHORS: Demeshina, A. I., and Murzin, V. N.

TITLE: Absorption and reflection spectra of $BaTiO_3$ in the far infrared

PERIODICAL: Fizika tverdogo tela, v. 4, no. 10, 1962, 2980 - 2982

TEXT: The seignettoelectrical properties of $BaTiO_3$-type crystals can best be studied by examining their vibrational spectra. The well-known bands at ν_1 = 545 and ν_2 = 400 cm^{-1} and the Raman bands at 695, 550, and 500 cm^{-1} attributed to vibrations of linked TiO_6 octaeders are of less interest than the ν_3 band of the Ba vibrations relatively to TiO_6 which are directly related to the seignettoelectric state. The position of ν_3 is suggested at $\sim$225 cm^{-1} but has not yet been observed - except by Hadni et al. (Rev. Opt., 38, 463, 1959) who attributed a peak at 180 cm^{-1} to the ν_3-band sought. Here the authors measured the absorption and reflection spectra of $BaTiO_3$, $SrTiO_2$ and a 70:30 solid solution of $BaTiO_3$ + $SrTiO_3$

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Absorption and reflection...

between 670 and 15 cm^{-1}. Whereas the absorption spectra showed no clear indication of a band at about 200 cm^{-1}, the $BaTiO_3$ reflection spectrum shows a distinct ν_3-peak at 185 cm^{-1}. In this spectrum ν_2 was found at 313 cm^{-1}. There are 2 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moskva
(Physics Institute imeni P. N. Lebedev AS USSR, Moscow)

SUBMITTED: May 28, 1962 (initially)
June 12, 1962 (after revision)

Card 2/2

43495

S/051/62/013/006/010/027
E032/E314

24.3500

AUTHORS: Murzin, V.N. and Demeshina, A.I.

TITLE: A spectrophotometer for the long-wavelength infrared region

PERIODICAL: Optika i spektroskopiya, v. 13, no. 6, 1962, 826 - 830

TEXT: A description is given of a vacuum spectrophotometer for the 40 - 1 200 μ range. The spectrophotometer was designed for solid-state studies at the physics laboratory of the Fizicheskiy institut im. P.N. Lebedeva AN SSSR (Physics Institute im. P.N. Lebedev, AS USSR) on the initiative of the late Professor G.I. Skanavi. The optical system of the device is illustrated in Fig. 1, in which И is the source, Э is the echelette, Б is the detector, M_{1-8} are mirrors, S_1 and S_2 are the entrance and exit slits of the monochromator. The echelette is demountable with constants equal to 1/12, 1/6, 1/2, 1.5, 2.5 mm and blazed at 12.5°. The mirrors M_6 and M_7 are spherical (35 cm in diameter, focal length 75 cm). The detector is a bismuth, low-inertia bolometer

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S/051/62/013/006/010/027
A spectrophotometer E032/E314

with a quartz window and a working surface of 10 x 2.5 mm (threshold sensitivity 2 x 10^{-9} W, time constant 18 μs). The source of radiation is the ПРК-4 (PRK-4) mercury quartz lamp. Selective modulation of the light beam is carried out at 9 c.p.s. and the amplifier is similar to that described by M.N. Markov (ZhTF, 24, 1867, 1954), V.I. Malyshev, A.A. Shubin (and M.N. Markov (Izv. AN SSSR, ser. fizich., 17, 654, 1953). The spectrophotometer has been used to obtain the absorption spectrum of H_2O vapour, polyethylene and teflon and the reflection spectra of CsI and KRS-5. The resolution is such that the instrument will resolve bands with maxima separated by < 1.0 cm^{-1}. A complete set of filter combinations has been developed for the entire range and their characteristics are reported. It is pointed out that in carrying out quantitative measurements in the long-wave infrared region it is particularly important to consider the scattering of short-wave radiation into the working region of the instrument (particularly in the second and higher orders). Since this problem has not been extensively studied in the literature, special experiments were carried out to determine this effect quantitatively.

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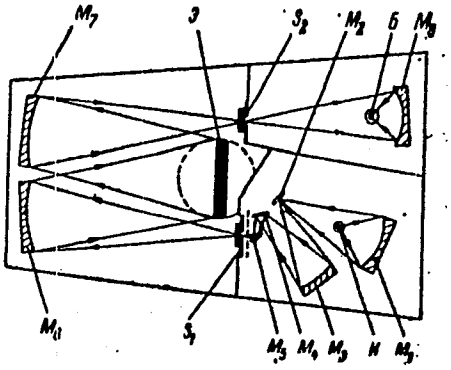
S/051/62/013/006/010/027
E032/E314

A spectrophotometer ....

There are 5 figures and 1 table.

SUBMITTED: August 29, 1961

Fig. 1:



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MURZIN, V.N.; DEMESHINA, A.I.

Temperature study of the infrared reflection spectra of $BaTiO_3$ and $SrTiO_3$ in the 2 - 1000 region. Fiz. tver. tela 5 no.8: 2359-2361 Ag '63. (MIRA 16:9)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR, Moskva.
(Barium titanate) (Strontium titanate) (Spectrum, Infrared)

ACCESSION NR: AP4011755 S/0181/64/006/001/0182/0192

AUTHORS: Murzin, V. N.; Demeshina, A. I.

TITLE: Temperature investigations of vibration in polycrystalline $BaTiO_3$ and $SrTiO_3$ through a wide spectral range

SOURCE: Fizika tverdogo tela, v. 6, no. 1, 1964, 182-192

TOPIC TAGS: vibration spectrum, temperature dependence, barium titanate, strontium titanate, polycrystalline barium titanate, polycrystalline strontium titanate, spectral range, domain structure, domain boundary, permittivity, dielectric constant, lattice vibration, ferroelectric, semiconductor

ABSTRACT: The authors have studied the transmission and reflection spectra of $BaTiO_3$ and $SrTiO_3$ in the temperature interval 45-140C in the spectral range 2-1000 microns. Measurements on the shorter wave lengths (2-25 microns) were made on an IKS-14 infrared spectrometer; those in the range 20-1000 microns were made on a far-infrared spectrometer built in the laboratory of Semiconductor Physics of the FIAN. In addition to the known reflection band with a maximum at ~ 18

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microns, a wide plateu-like segment was observed for both substances at ~22 microns. It is not well defined. Both substances have maximums at ~30 microns; $SrTiO_3$ has one at ~80 microns, and $BaTiO_3$ has a weak one at ~55 microns. These indicate the development of high permittivity because of vibration of the crystal lattice. The measurements were treated mathematically, and the spectral behavior of the actual and imaginary parts of the permittivity was determined. Observed vibration of the crystal lattice of these substances has been interpreted according to the theoretical views relative to the vibration spectrum of the perovskite crystal lattice, on the basis of group theory. Anomalous measurements of low-frequency vibration at temperatures near the phase transition are considered on the basis of recent microscopic theories of ferroelectrics. The temperature relations of the dielectric constant for the most interesting parts of the spectrum are shown in Fig. 1 on the Enclosure. It is clear that in the region $\lambda > 1$ cm a basic change occurs in the dielectric constant for $BaTiO_3$ because of rearrangement of domains and displacement of domain boundaries. In the region $\lambda < 1$ cm, the temperature changes in the dielectric constant are due to deformation of the crystal lattice and to corresponding changes in the vibration spectrum. "In conclusion, we take this opportunity to express our sincere thanks to S. V.

ACCESSION NR: AP4011755

Bogdanov for his valuable advice and his constant interest in the work." Orig. art. has: 7 figures, 3 tables, and 6 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moscow (Physical Institute AN SSSR)

SUBMITTED: 22Jul63	DATE ACQ: 14Feb64	ENCL: 01
SUB CODE: PH	NO REF SOV: 013	OTHER: 015

Card 3/3

L 11846-65 EWT(c)/EWP(e)/EPA(s)-2/EWT(m)/EPF(n)-2/EPA(w)-2/EEC(t)/EWP(t)/EEC(b)-2/EWP(b)/EWA(h) Pab-10/Pt-10/Pu-4/Pl-4/Peb IJP(c)/ASD(a)-5/ASD(m)-3/AS(mp)-2/AFMD(t)/ESD(dp)/ESD(gs)/ S/0181/64/006/011/3372/3377
ACCESSION NR: AP4048416 ESD(t) GG/JD

AUTHORS: Murzin, V. N.; Bogdanov, S. V.; Demeshina, A. I. B

TITLE: Dispersion relation and some microscopic characteristics of barium titanate

SOURCE: Fizika tverdogo tela, v. 6, no. 11, 1964, 3372-3377

TOPIC TAGS: barium titanate, dispersion relation, electron polarization, polarizability, dielectric constant

ABSTRACT: The method of W. Cochran (Adv. Phys. v. 8, 387, 1960) is used to analyze the experimental results obtained for $BaTiO_3$ and to derive in explicit form a dispersion relation for the complex dielectric constant of substances with crystal structure of the perovskite type in the cubic state. Allowance is made for the fact that in such crystals the polarization has a complex character, due to the presence of strong local electric fields and to the large

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L 14846-65
ACCESSION NR: AP4048416

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contribution of the electron polarization. In the case of barium titanate, comparison of the calculations with experiment yields estimates for the ion displacements, the total polarizability per unit crystal cell and its ionic components, the values of the local electric fields, and the ion polarizabilities of the atoms. The calculation shows that 65--80% of the total polarization of the crystal is due to electron polarization. "We thank D. G. Sannikov for a discussion of the results of this work." Orig. art. has: 15 formulas and 3 tables.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 03Dec64 ENCL: 00

SUB CODE: SS NR REF SOV: 007 OTHER: 005

Card 2/2

L 17125-65 EEC(b)-2/EPF(n)-2/EPA(s)-2/EPA(w)-2/EWA(h)/EWT(1)/EWT(m)/EEC(t)/EWP(b)/EWP(e) P1-4/Pt-10/Pu-4/Peb-10/Peb AS(mp)-2/SSD(a)/ASD(a)-5/AFMD(t)/ASD(m)-3/ESD(dp)/ESD(c)/ESD(go)/ESD(t)/IJP(c) GG/WH

ACCESSION NR: AP5000655 S/0181/64/006/012/3585/3593

AUTHOR: Murzin, V. N.; Bogdanov, S. V.; Demeshina, A. I.

TITLE: Transmission and reflection spectra of several titanates in a broad infrared region

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3585-3593

TOPIC TAGS: titanate, transmission spectrum, reflection spectrum, ir spectrum, dielectric constant / SVT-227, SVT-802

ABSTRACT: The transmission and reflection spectra of $CaTiO_3$, SVT-227, SVT-802 (solid solutions based on $SrTiO_3$ to which 9.6 and 19.6 mol.% Bi is added), $MgTiO_3$, Zn_2TiO_4, $Bi_{2/3}TiO_3$, and barium tetratitanate were measured in the spectral interval 2 -- 1,000μ and in the submillimeter band. The samples were prepared in accordance with the usual ceramic technology. The submillimeter band (2 -- 8 mm) was generated by a klystron. The results have shown that high-frequency normal oscillations are produced in these substances essentially as a result of internal oscillations of the TiO_6 octahedra, while the low-frequency oscillation is connected with the relative dis-

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placement of the Ti and Ba atoms. In all the compounds (except $BaTiO_3$, SVT-802 and SVT-227) the dielectric constant does not depend on the frequency in the range from radio-frequencies up to 500 -- 5,000 Gc (the region of infrared resonance). The dielectric constant in this range is therefore due to the oscillations of the crystal-lattice ions. In the case of the polycrystalline $BaTiO_3$ and SVT compounds, a dispersion was observed also at lower frequencies, $\sim 10^9$ cps. The dielectric losses of the polycrystalline $SrTiO_3$, $CaTiO_3$, $MgTiO_3$, $ZnTiO_4$, barium tetratitanate, and $Bi_{2/3}TiO_3$ at microwave frequencies are also completely due to the resonant mechanism connected with the oscillation of their crystal lattices. Orig. art. has: 5 figures, 1 formula and 2 tables.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moscow (Physics Institute AN SSSR)

SUBMITTED: 03Dec63 ENCL: 00

SUB CODE: OP, IC NR REF SOV: 006 OTHER: 004

ACCESSION NR: AP4030646 S/0048/64/028/004/0695/0702

AUTHOR: Murzin, V.N.; Demeshina, A.I.

TITLE: Temperature investigation of the dielectric dispersion of polycrystalline barium titanate and strontium titanate in a wide spectral range /Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 May to 5 June 1963/

SOURCE: AN SSSR. Izv. Ser.fiz., v.28, no.4, 1964, 695-702

TOPIC TAGS: ferroelectricity, dielectric dispersion, barium titanate, strontium titanate, barium titanate dielectric dispersion, strontium titanate dielectric dispersion, perovskite lattice normal mode

ABSTRACT: The authors have measured the dielectric constant of barium titanate and strontium titanate over the spectral range from audio frequencies to the near infrared (V.N.Murzin and A.I.Demeshina, Fizika tverdogo tela,4,2930,1962; Ibid.,5,2339, 1963; Optika i spektroskopiya,13,826,1962). They have also employed group theory methods to calculate the normal modes of the perovskite lattice in both the cubic and the tetragonal states. The secular equations for the perovskite vibrations are given in the present paper, and the dielectric constant measurements are discussed. The

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dielectric constant was measured at audio and radio frequencies with a bridge or a Q meter. The infrared measurements (2 to 1000 microns) were performed with two spectrometers, of which that used at the longer wavelengths was of special construction and is described in one of the references cited above. Both absorption and reflection spectra were obtained. The real and imaginary parts of the dielectric constant were calculated from the spectroscopic data with the aid of the dispersion relation, and the results are presented graphically. In addition to the known absorption band at about 18 microns, a broad absorption band was found at lower frequencies in both barium and strontium titanate. This low frequency absorption peaked at 105 microns in strontium titanate and at 290 microns in barium titanate. The measurements of barium titanate were repeated at a number of temperatures above and below the Curie point. These measurements are discussed in terms of a microscopic theory of ferroelectricity (V.L.Ginzburg, Uspekhi fiz.nauk,38,490,1949; Fizika tverdogo tela,2,2031, 1960; W.Cochran, Advances Phys.,8,387,1960). The absorption at 290 microns is identified with the lattice vibrations to which, according to this theory, the ferroelectric properties are due. Barium titanate has two regions of strong dispersion. One dispersion region extends from 5×10^{11} to 10^{14} cycles/sec and is due to lattice vibrations; the other region of strong dispersion lies between 109 and 5×10^{10} cycles/sec and is ascribed to domain wall motion. The lower frequency dispersion

ACCESSION NR: AP4030646

region does not occur in strontium titanate, which has no domains. "In conclusion we take the occasion to express our deep gratitude to S.V.Bogdanov for his valuable advice and constant interest in the work." Orig.art.has: 8 formulas, 6 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: EM NR REF SOV: 013 OTHER: 013

Card 3/3

L 65251-65 EWT(l)/EWP(e)/EPA(e)-2/EWT(m)/EWP(l)/EPA(w)-2/EWP(b) IJP(c)
ACCESSION NR: AP5014555 WW/GG/WH UR/0181/65/007/006/1634/1638

AUTHOR: Bashkovich, M. D.; Demeshina, A. I.

TITLE: Investigation of certain inorganic dielectrics in the long-wave part of the infrared spectrum

SOURCE: Fizika tverdogo tela, v. 7, no. 6, 1965, 1634-1638

TOPIC TAGS: inorganic dielectric, infrared spectrum, optical constant, glass, pyroceram, ceramic dielectric, dielectric loss, polarization/ S-49-2, S-48-3

ABSTRACT: In view of various contradictions in the results of earlier investigations by others, the authors studied the dependence of the refractive index and the transmission coefficient on the wavelength in the range 300--30 μ (3.3 x 10^{11}--10^{13} cps) for several types of glass, pyrocerams, and ceramic materials. The glasses investigated were of the sodium-calcium-silicate plate type glass, alkaline borosilicate glass type S-49-2, and alkali-free alumosilicate glass type S-48-3. The measurements were made with a vacuum recording spectrophotometer for the far infrared, constructed at FIAN (Physics Institute, Academy of Sciences) and described by one of the authors (Demeshina, with V. N. Murzin, Opt. i spektr. v. 13, 826, 1962). The samples used were in the form of plates measuring 50 x 60 mm. The reflection was measured with plates 4--5 mm thick, one side of which was polished. The trans-

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L 65251-65
ACCESSION NR: AP5014555

parency was determined in samples of different thickness ranging from 0.1 to 4.5 mm. The results are presented in the form of plots of the transparency and of the reflection and absorption coefficients against the wavelength. These results, supplemented with data on the dielectric properties at microwave frequencies, are discussed from the point of view of the nature of the dielectric losses. It is deduced from the decrease in the absorption and in the losses at 900--500 μ, and the increase in the losses at microwave frequencies, that in the frequency range 4×10^{10}--3×10^{11} the absorption has at least one maximum, and the nature of this maximum is discussed. Among the mechanisms proposed for the absorption are deformation and elastic ionic polarization, and the relative contributions of these mechanisms are estimated. Orig. art. has: 5 figures and 1 formula.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut elektrovakuumnogo stekla, Moscow (State Scientific Research Institute of Electrovacuum Glass)

SUBMITTED: 02Nov64 ENCL: 00 SUB CODE: MT, OP

NR REF SOV: 009 OTHER: 009

MJR
Card 2/2

L 57026-65 EWT(l)/EPA(s)-2/EEC(t)/T/EEC(b)-2 Pt-7/Pl-4/Pl-4 IJP(c) GT

ACCESSION NR: AP5016120 UR/0048/65/029/006/0920/0924

AUTHOR: Murzin, V.N.; Demeshina, A.I.; Bogdanov, S.V. 55 54

TITLE: Vibrational spectra of strontium, barium and calcium titanates /Report, 4th All-Union Conference on Ferroelectricity held in Rostov-on-the-Don 12-18 Sept. 1964/

SOURCE: AN SSSR. Izvestiya. Ser.fizicheskaya, v.29, no.6, 1965, 920-924

TOPIC TAGS: ferroelectric crystal, barium titanate, calcium inorganic compound, strontium titanate, absorption spectrum, dielectric constant, perovskite structure

ABSTRACT: The infrared transmission and reflection spectra of $CaTiO_3$ were recorded and are compared with the analogous spectra of $SrTiO_3$ and $BaTiO_3$ reported earlier by the authors and by others. The comparison is of interest because all three materials have the perovskite structure but with different symmetries at room temperature. The $CaTiO_3$ transmission spectrum has a doublet with the minimum near 30 microns, and the reflection spectrum has sharper minima than those of

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